Board of Governors of the Federal Reserve System

REPORT ON THE AUDIT OF THE BOARD'S OVERSIGHT APPROACH FOR THE FEDERAL RESERVE'S CHECK MODERNIZATION PROJECT

OFFICE OF INSPECTOR GENERAL

September 5, 2001

Governor Edward W. Kelley, Jr.
Chairman, Committee on Federal Reserve Bank Affairs
Board of Governors of the Federal Reserve System
Washington, DC 20551

Dear Governor Kelley:

We are pleased to present our *Report on the Audit of the Board's Oversight Approach for the Federal Reserve's Check Modernization Project* (A0013). We initiated this audit in January 2001, because of the complexity, high cost, and importance of the check modernization project (Project) and because the Director of the Division of Reserve Bank Operations and Payment Systems (RBOPS) requested an impartial assessment of the division's project oversight strategy.

Overall, we found that during this initial year of the Project, RBOPS has implemented important elements of an appropriate and effective oversight strategy with no significant gaps in coverage. In going forward, however, the pace and complexity of project activities will likely require a more focused and integrated oversight approach to monitor and evaluate Project issues. Our report contains two recommendations to help RBOPS meet this oversight challenge. Specifically, we recommend that the Director of RBOPS

- refine and more clearly articulate to division staff the key Project risks, current risk weights, and oversight objectives for each Project risk, including the risk-based oversight strategies and tactics to be used in accomplishing the division's oversight objectives; and

- more fully integrate the results of audit work performed by the General Auditors and RBOPS' reviews of General Auditor operations into the division's oversight activities.

In her written response to the report, the director agreed that our two recommendations would enhance RBOPS oversight efforts and stated that the division plans to implement the recommendations in the near future. The director's description of actions planned and in process is responsive to the specific issues discussed in our two recommendations.

We appreciate the cooperation and assistance provided by RBOPS management and staff and by Project management officials during the course of our audit. We are available to work with the division further in this area, as requested. Within the next year, we plan to assess the division's progress in implementing these recommendations as part of our routine audit follow-up process.

We have provided copies of this report to RBOPS management officials and the report will be added to our publicly available Web site. In addition, we will summarize the report in our next semiannual report to the Congress. Please contact me if you would like to discuss the audit report or any related issues.

Sincerely,

Barry R. Snyder
Inspector General

Enclosure

cc: Governor Roger W. Ferguson, Jr.
      Ms. Louise Roseman

Board of Governors of the Federal Reserve System

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THE BOARD'S OVERSIGHT APPROACH
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BACKGROUND

In October 1999, the Board of Governors of the Federal Reserve System (Board) approved the Reserve Banks' multiyear check modernization initiative which, when completed, will standardize the way checks are processed at all twelve Reserve Banks. The initiative requires all Reserve Banks to adopt common software that will create a nationwide system for processing checks, researching check-adjustment cases, archiving and retrieving check images, and delivering check services to depository institutions via the Internet. This total reengineering of the Reserve Banks' check processing infrastructure, referred to as the Check Modernization Project (Project), is one of the largest automation projects ever undertaken by the Reserve Banks and will have a direct impact on the work responsibilities of about 5,500 Federal Reserve System (System) employees and the level of service provided to over 8,000 customers.

The Project officially began its forty-five month implementation schedule on April 11, 2000. The Reserve Banks expect to spend about $93 million in capital outlays and $242 million in additional operating expenses on the Project through 2004 (see exhibit 1). The Project is expected to improve check efficiency within the System; reduce the time to market for new check-related products; and improve service consistency, uniformity, flexibility, and quality to customers. The complexity, high cost, and importance of the Project to the future viability of the Federal Reserve's check processing operations make the Project a high-risk/high-reward endeavor. As such, the Project also represents a specific oversight challenge for the Board.

Appendix 1, a reprint from the Board's *Annual Report: Budget Review* for 2001, provides a more in-depth description of the Project including background information on the Reserve Banks' check processing environment, expected benefits of the Project, and the Project management structure.

Exhibit 1 – Check Modernization Project Implementation Schedule

Project Component	Implementation Schedule (as of 5/10/01)	Anticipated Capital Outlays (millions)	Anticipated Expenses (millions)
Enterprise-Wide Adjustments (EWA)	Start: 1Q 2000 Complete: 2Q 2002	$4.0	$14.0
Electronic Access & Delivery (EA&D)	Start: 2Q 2000 Complete: 4Q 2002	$2.0	$6.0
Image Service System (ISS)	Start: 3Q 2000 Complete: 4Q 2002	$27.0	$22.0
Check Standardization	Start: 2Q 2001 Complete: 1Q 2004	$60.0	$200.0
Totals		$93.0	$ 242.0

Source: The Board's *Annual Report: Budget Review* for 2001, reprinted as appendix 1.

Board Oversight Structure and Processes

The Board currently provides oversight for the Project primarily through established oversight processes and interactions between the Board's Committee on Federal Reserve Bank Affairs (BAC), the Division of Reserve Bank Operations and Payment Systems (RBOPS), and the Reserve Banks. RBOPS' mission is to provide high quality, professional support to the Board in overseeing Reserve Bank operations and in fostering the integrity, efficiency, and accessibility of U.S. payment and settlement systems.

RBOPS' check modernization oversight team (Team) is jointly led by the managers of the Retail Payments and Information Technology sections within RBOPS. The Team consists of nine staff members from these two sections, with participation from staff of the Planning and Control, Audit Review, and Human Resources sections for particular issues in their areas of expertise. In 2000, RBOPS modified its approach to oversight of Reserve Banks so as to focus on areas of high risk, strategic significance, and superior performance. Key to this strategy is an increased reliance on internal audit work of and increased collaboration with Reserve Bank General Auditors and audit committees. This new approach also includes a different methodology for on-site reviews of Reserve Banks. Instead of being performed by dedicated examination staff using a standardized examination program, these reviews are now performed by a multidisciplinary team of RBOPS staff using a risk-based review program. The Project is the first multiyear Systemwide project to occur since RBOPS implemented this new oversight approach.

Exhibit 2 shows the level of staff resources assigned specifically to the Project. Included in the table is a brief description of some of the check modernization responsibilities and the normal oversight activities and processes carried out by each section.

Exhibit 2
RBOPS Oversight Responsibilities

Section/Mission	Check Modernization Responsibilities (Number of Staff Involved)[1]	Check Modernization Oversight Activity/Process
Retail Payments To support the Board and RBOPS in overseeing Reserve Bank check and automated clearinghouse (ACH) services, evaluate policy issues concerning retail payments, and recommend retail payments policies and regulations.	• Oversight for all four Project components and the Project as a whole. (five of ten)	• Monitors Reserve Bank performance measures. • Reviews Project activities as part of scheduled on-site reviews of Reserve Banks. • Liaisons with all check modernization management groups. • Specific check modernization input into the System's budget review, information technology acquisition, and Reserve Bank evaluation processes.
Information Technology To promote Reserve Bank and System-level planning, evaluation, implementation, and use of information technology in a cost-effective manner consistent with System policies.	• Oversight of technical aspects for all Project components and the Project as a whole. (four of ten)	• Monitors Reserve Bank performance measures. • Reviews Project activities as part of scheduled on-site reviews of Reserve Banks. • Liaisons with all check modernization management groups, and System information technology management groups. • Specific check modernization input into the System's budget review, information technology acquisition, and Reserve Bank evaluation processes.
Planning and Control To play a leading role in ensuring and promoting (1) effective and efficient use of System resources, and (2) the quality of cost accounting and budget data reported to the Board and provided to the System.	• Monitor budget and delegation of spending authority. (two of nine)	• Monitors Reserve Bank performance measures. • Reviews Project-related accounting activities as part of scheduled on-site reviews of Reserve Banks. • Reviews Reserve Bank budget submissions. • Liaison to the Project committee for financial reporting.
Audit Review To assist the Board in exercising general supervision over Reserve Banks by promoting high quality, cost-effective internal audit functions at the Banks.	• Review Project-related work of each General Auditor for compliance with standards and approved audit guidelines. (three of eight)	• Conducts on-site and off-site reviews of internal audit work and reports. • Liaison to the Conference of General Auditors (COGA) and the Check Modernization Audit Team (CMAT).
Human Resources To assess whether Reserve Bank policies and practices enable the Banks to fulfill their personnel needs.	• Evaluate human resource policies affecting the Project, such as hiring and incentive pay. (ad hoc; none designated from a staff of six)	• Monitors Reserve Bank performance measures. • Reviews Project-related personnel issues as part of scheduled on-site reviews of Reserve Banks.

Note 1: Number of staff involved full-or part-time in Project oversight relative to authorized section position levels.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of our audit was to provide the Board with an independent and timely assessment of the effectiveness of RBOPS' oversight strategy so that any necessary adjustments could be made in the early stages of this multifaceted, multiyear Project. We reviewed how RBOPS (1) gathers and assesses the reliability of information on the Project, (2) evaluates the implications of that information relative to recognized risks, and (3) communicates its assessments to Project officials and the Board.

To accomplish our objectives, we interviewed selected RBOPS staff, Project officials, Reserve Bank General Auditors, and the BAC members. We also reviewed various Project and oversight-related documentation, including the *Check Modernization Capstone Document* and the *White Paper: Check Modernization Audit Approach*. Additionally, we made first-hand observations of RBOPS staff participating in Project committees and conducting on-site oversight of Project activities during scheduled reviews at two Reserve Banks. Our fieldwork was conducted between January 10, 2001, and May 18, 2001, and was performed in accordance with generally accepted government auditing standards.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

During this initial year of the Project, RBOPS has implemented important elements of an appropriate and effective oversight strategy. We found that RBOPS has worked with Project management to establish an open environment for sharing information on Project status and issues as they develop. Such communication is occurring through RBOPS staff's participation as liaisons in all significant Project committees, open access to Project management's issues database and dashboard status reporting system and the General Auditors' Check Modernization Audit Communication System (CMACS), and frequent informal discussions of Project developments and issues. The Project officials we interviewed were complimentary of the cooperative and supportive relationship of RBOPS. As examples, they cited RBOPS streamlined process for approving Project equipment acquisitions, early development and approval of the Project incentive pay program, and the coordinated way in which RBOPS staff members are raising issues and questions for consideration. In addition, the BAC members told us that they have been satisfied with the quality of the information and analysis provided by RBOPS on the Project. During our audit work, we also observed that the key sections of RBOPS involved in Project oversight had taken steps to ensure that staff involved in Project oversight had designated backups. This approach has included some leadership roles for senior staff below the section manager level, which has helped to distribute responsibilities.

Notwithstanding the positive feedback, we believe RBOPS needs to focus its oversight strategy by defining a specific set of Project oversight objectives that are linked to assessing how effectively Project management is mitigating recognized Project risks. Specifying Project oversight objectives in the context of its current overall oversight approach will help ensure that RBOPS gives sufficient attention to key issues at the appropriate time and that adequate

resources are available. While RBOPS current oversight approach has not resulted in any important gaps in Project oversight thus far, we believe that the increased pace and complexity of Project activities, particularly during the next two years, will likely require more staff time to monitor and evaluate Project issues. We observed that RBOPS managers and staff have added the specific monitoring and oversight duties for the Project to an already-full agenda of on-site review work, liaison work, and policy and performance analyses. We believe that more focused planning will help clarify priorities for Project oversight attention and better enable staff to effectively fulfill their wide-ranging responsibilities.

We also identified opportunities for improving communication related to RBOPS' oversight of the work performed by the General Auditors in connection with the Project. RBOPS oversight strategy for the Project places significant reliance on the work of the General Auditors; however, we observed that RBOPS, in its reports to the BAC, has not provided its assessment of the General Auditors' Project oversight coverage and has given limited visibility to General Auditor findings rated as significant and the related Project management responses. To facilitate analysis and reporting of such information, we believe the Audit Review staff should be more routinely involved in the oversight Team's Project status meetings. We also learned from those General Auditors who have significant audit responsibilities within the Project that they are relying on RBOPS' assessments of the quality of each General Auditor's work as an important measure that each General Auditor is fulfilling his/her Project responsibilities. If RBOPS intends to perform this role, then we believe that the division should be sharing more information proactively with other General Auditors regarding the scope and results of Project-related audit review work at a particular Reserve Bank, rather than on an exception basis.

We have two recommendations designed to enhance the Board's oversight of this Project. The first is to ensure that oversight planning for the remainder of the Project is sufficiently detailed to ensure that the oversight approach is appropriately focused and sustainable for the future. The second recommendation will help improve several areas of communication related to the work of the General Auditors. We believe that implementing these recommendations will help RBOPS ensure that it is collecting, evaluating, and communicating key information to achieve its oversight mission.

1.   **We recommend that the Director of RBOPS refine and more clearly articulate to division staff the key Project risks, current risk weights, and oversight objectives for each risk, including the risk-based oversight strategies and tactics to be used in accomplishing the division's oversight objectives.**

In a November 7, 2000, memorandum to the BAC, RBOPS stated that, while the Retail Payments Office (RPO) is responsible for the actual management of the overall Project, RBOPS shares the same objectives as the RPO, which are

- completing the Project timely and within budget,

- achieving projected benefits,

- meeting cost-recovery targets,

- implementing the four Project components effectively, and

- maintaining adequate controls within the check operations.

While RBOPS certainly wants the Project to achieve these outcomes, BAC members, RBOPS officials, and Project management officials have all emphasized that Reserve Bank management is responsible for managing the Project to achieve these outcomes and that RBOPS should maintain an oversight, rather than a management role. Given its oversight role and its limited authority for Project decisions, we believe RBOPS needs oversight objectives and performance measures that relate more directly to what it expects to accomplish through its oversight activities.

We found that RBOPS currently performs a number of oversight activities for the Project that are consistent with its overall mission of ensuring that Reserve Banks operate according to sound business practices and within Board and System guidelines. These activities include maintaining a presence on various Project work groups and task forces, and identifying and appropriately communicating relevant issues as they arise. However, to provide better guidance to staff, we believe that these activities need to be focused on Project oversight objectives and strategies that are directed at assessing whether Project management is effectively addressing key Project risks, like those identified in the *Check Modernization Capstone Document*. These risks, which include interoperability and interdependence of Project components, vendor performance, and retention of key personnel, as well as other risk areas, such as the adequacy of Project staffing, the quality of Project status reports, and the effectiveness of Project committees, can serve as the framework for the RBOPS oversight strategy document.

Applying a risk-based approach to the Project should help ensure that the division's oversight efforts are appropriately timed from a Project-wide perspective and focused on the areas with greater perceived risks during the planning timeframe. In implementing this recommendation, we are not envisioning a paperwork-intensive exercise. Instead, we see the risk-based planning process as an opportunity for key division staff, who are involved in Project oversight processes, to agree on strategies and tactics to address the key oversight issues during the planning horizon. The process would entail RBOPS management and staff systematically discussing and documenting (1) the specific oversight objectives related to each Project risk, (2) the particular oversight activities that will achieve those objectives, (3) any risk areas where special attention or analysis is required because of the timing or resource limitations in normal oversight activities, and (4) any risk areas that will receive limited coverage.

We also view risk-based oversight planning as a dynamic process that could be reviewed and updated quarterly in conjunction with RBOPS quarterly reports to the BAC. For example, in a recent status report, RBOPS informed the BAC that, during the upcoming time period, it plans to focus on certain topics, such as vendor management, completion of contingency planning, and the significant burden on key Reserve Bank personnel. A risk-based planning approach would allow the team to discuss how such analyses will be done; the thresholds such as schedule delay, cost or budget variance, or performance/functionality limitations that would indicate potential problems; and whether staff from other sections of the division may be needed to provide particular expertise.

A risk-based planning approach for the Project would also have several benefits for RBOPS staff and management. Specifically,

- staff would have clearer direction and priorities for their oversight work;

- staff would better understand their areas of responsibility in the context of the oversight strategy as a basis for agreeing on performance expectations;

- RBOPS management would be better able to make informed judgments about the amount and value of manager and staff time committed to Project oversight relative to other responsibilities so that staff have the necessary time to identify and analyze more complex or judgmental issues related to the Project;

- staff and management would be better able to know when they need to be involved in discussions to fulfill their responsibilities and when they can be excluded from meetings and document flows that are of little value to their responsibilities; and

- management would be better able to identify knowledge and skill areas where cross training between business area, technical, and audit review staff might be helpful in improving the quality of oversight work.

2. **We recommend that the Director of RBOPS more fully integrate the results of audit work performed by the General Auditors and RBOPS' reviews of General Auditor operations into the division's oversight activities.**

We identified three areas where we believe RBOPS' communication practices related to its oversight of the work of the General Auditors could be enhanced. First, periodic RBOPS Project status reports to the BAC do not include an RBOPS assessment of audit coverage or information on any significant audit findings and their disposition, even though RBOPS is relying on such General Auditor work as an integral part of Project oversight. RBOPS reviews the General Auditors' audit strategy and audit programs for each component of the Project and, during its on-site reviews of each Reserve Bank, is in a position to assess each Bank's relative audit resource commitment and quality of effort in executing the audit work programs. We believe that such oversight work allows RBOPS to inform the BAC whether it believes, from a Systemwide perspective, that the overall coverage by the General Auditors is providing reasonable assurance that the Project's control processes are effective. We believe that RBOPS should also include significant General Auditor findings (i.e, level one or two findings)[1] and Project management's disposition so that the BAC can be alerted to control issues and how senior management intends to respond to them. While there have been few significant findings thus far related to the

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[1] The General Auditors classify their audit findings and recommendations into one of four levels:
- Level One—Highly significant issues that warrant immediate management attention;
- Level Two—Significant issues that warrant prompt management attention;
- Level Three—Less significant control, compliance, or improvement issues; and
- Level Four—Maintenance/housekeeping issues; non-report items.

Project, we believe that greater visibility to the BAC will be increasingly important as schedule and cost pressures increase on Project management.

Second, the Audit Review Section receives information from the General Auditors regarding the results of their Project-related audits and the officer, manager, and a staff member of the section serve as liaisons to the COGA and CMAT where oversight issues, approaches, and concerns are discussed. We found that such Audit Review personnel are not routinely involved in the meetings of the RBOPS oversight team, although ad hoc discussions occur between Audit Review staff and Team members. Instead, members of the Team generally rely on their own review and reading of the General Auditors' audit results shared by Audit Review and information in the CMACS database. Given the reliance on the General Auditors' work in the oversight process, we believe that it is important that Audit Review personnel, who are routinely involved in discussions with the COGA and CMAT, bring that perspective to the Team, whose members primarily deal with Project management. The General Auditor responsible for coordinating General Auditor work on the Project told us that she found it very valuable to be part of both the Project management committee meetings and the General Auditor meetings so as to hear and evaluate both perspectives. We believe that RBOPS should make similar cross-section communication more routine as part of its Project oversight communication processes.

The third area pertains to RBOPS' method for communicating findings regarding the work of a particular Reserve Bank General Auditor. RBOPS officials told us that currently, any findings by Audit Review regarding a General Auditor work, including those relating to audit work on the Project, are discussed first with the particular Reserve Bank's General Auditor and that Bank's Audit Committee. Findings are then shared with other General Auditors on a case-by-case basis if RBOPS officials believe the findings have implications for other Reserve Bank General Auditors. During our review, the General Auditors who have responsibility for certain Systemwide audit work on the Project told us that they are not formally evaluating the quality of the work that other General Auditors perform on their behalf. Instead they are relying on each General Auditor's certification of work performed and on the review work of the RBOPS Audit Review Section as measures that the expected audit work is being performed consistent with standards and COGA-approved audit guidelines. If RBOPS intends to perform this role, then we believe that the division should be sharing more information proactively with other General Auditors regarding the scope and results of Project-related audit review work at a particular Reserve Bank, rather than on an exception basis.

ANALYSIS OF COMMENTS

We provided a draft copy of the report to the RBOPS' director for review and comment. In her response, included as appendix 2, the director agreed that our two recommendations would enhance RBOPS oversight efforts and stated that the division plans to implement the recommendations in the near future. The response explains that the division has developed a matrix that shows an assessment of project risks, the oversight strategy and tactics to achieve oversight objective related to each risk, and the sections of the division with implementation responsibility. The response also describes how the division plans to provide the BAC more information on the results of the work of the General Auditors and RBOPS' assessment of that

work, proactively share information on the scope and results of its Project-related audit review work with the General Auditors, and enhance cross-section communication within the division.

Appendixes

Appendix 1 – Description of the Check Modernization Project

[This is a reprint of Chapter 4 of Annual Report: Budget Review for 2001 (pages 43-47) published by the Board in May 2001.

Check Modernization

In recent years, the Federal Reserve Banks have explored ways of modernizing their check-processing systems to expand the services they offer and improve operational efficiency. In late 1999, they began the multiyear check modernization initiative, which will result in the standardization of check processing at all Reserve Banks, the adoption of common software for processing and researching check-adjustment cases, the creation of a national system for archiving and retrieving check images, and the delivery of check services to depository institutions via the Internet.

Check modernization will directly affect approximately 5,500 Federal Reserve employees and 8,000 depository institutions and will substantially alter the infrastructure of the Reserve Banks' check service line. The four projects that make up the initiative are expected to result in capital expenditures of approximately $90 million and expenses of approximately $250 million over five years, from 2000 through 2004. These costs are expected to be offset, over the long run, by more cost-effective operations and by additional revenue from new product offerings.

Background

The Federal Reserve Banks currently process checks, resolve adjustment requests, and provide image-based check services using multiple hardware and software platforms. They also provide remote access and delivery of certain check services using a technologically outdated DOS-based platform. Adjustments, imaging, and electronic delivery are key check-related services, but the core function on which they rely is check processing. Accordingly, the effort to implement a standard check-processing platform is the most significant component of the check modernization initiative.

Currently, seven Reserve Banks use a Unisys check-processing platform at twenty-six sites, and five Reserve Banks use an IBM check-processing platform at nineteen sites. The Reserve Banks also use a combination of internally developed and vendor-provided software applications. The Unisys-based Reserve Banks use local Unisys mainframe computers to process checks. Four IBM-based Reserve Banks use data-processing services provided by Federal Reserve Automation Services, and the fifth uses a local mainframe computer to run its check-processing system.

As check-processing technology has advanced, vendors have begun to discontinue support for older equipment and software. The high cost of replacing some of the older systems prompted the Reserve Banks in 1997 to begin reviewing their check automation options. At the same time, the Reserve Banks faced changes in the market, as depository institutions began to demand greater uniformity in the products and services provided by the Reserve Banks. Consolidation within the banking industry has had a major effect on these demands. For example, many depository institutions have come to expect the Reserve Banks to provide uniform services, using

Appendix 1 – Description of the Check Modernization Project

the latest check-processing technologies and without significant fee increases, so that the depository institutions, in turn, can provide their customers with similar services nationwide. To keep up with changing market demands and remain a viable provider of payments services, the Reserve Banks must improve their ability to bring innovative products to the market quickly.

The Reserve Banks' current check-processing infrastructure, however, hampers their ability to implement new technologies rapidly and roll out new national products to meet customer demand. This inability may be attributed, at least in part, to the independence that each Reserve Bank has historically exercised in building its check-processing infrastructure and in shaping its product offerings to accommodate customer demands. This independence has resulted in a large number of software applications, each with District-specific variations. In the current environment, to offer a new national product to meet a particular market need, the Reserve Banks might have to modify hardware and software configurations in up to forty-five check-processing sites across the nation.

Check Modernization Projects

The check modernization initiative comprises four projects – check standardization, enterprise-wide adjustments, image services system, and electronic access and delivery. Collectively, these projects will reduce the time needed to develop and deploy new products; facilitate the move to electronic payments; improve the overall consistency, quality, and flexibility of the services delivered to depository institutions; and improve the cost-effectiveness of Federal Reserve check services over the long run.

Check Standardization Project

The primary strategy of the check modernization initiative is to replace the current network of twelve relatively independent check-processing systems with a standard platform in all twelve Banks. The key to accomplishing this goal lies in the check-processing software. The core components of a check-processing system are check sorters, which electronically capture data from checks as the checks are physically sorted, and software, which drives the sorters and manages the captured data. The software is the primary driver of a platform's functionality and its ability to interface with other applications. Although the Reserve Banks currently use only two basic types of check-processing systems, each Reserve Bank uses a variety of software packages to enhance the functionality of these systems.

In the check standardization project, standard check-processing software will be installed at all forty-five processing sites. The check-processing system used at these sites will be centrally managed and will support a uniform set of products nationwide. Once they have converted to the standard platform, the Reserve Banks will be able to operate multiple types of check-sorting hardware using the same software.

The check standardization project is the most complex of the four check modernization projects and is expected to take nearly four years to complete, with the last site converting to the standard

Appendix 1 – Description of the Check Modernization Project (con't)

platform in 2003. Capital outlays for the project are expected to total approximately $60 million, and expenses are expected to total slightly more than $200 million through the end of the project in 2004. Concurrent with the project, the Reserve Banks will be required to upgrade many of their high-speed check sorters as vendors discontinue support for older models. Although these upgrades will be coordinated with the check standardization project, they are not included in the project budget because the upgrades would have been necessary even without the check modernization initiative. For several Reserve Banks, these upgrades will constitute a significant portion of their 2001 capital expenditures.

Enterprise-Wide Adjustments Project

The enterprise-wide adjustments (EWA) project will streamline the process for researching and resolving check adjustments by creating a centrally managed, enterprise-wide adjustment system. The adjustments process deals with the exceptions that inevitably occur during the normal course of processing checks – checks processed for the wrong dollar amount, lost checks, and the like. Because these errors are generally detected after a depository institution has settled with a Reserve Bank, the depository institution submits an adjustment request for an offsetting debit or credit to resolve the difference.

The adjustment process has historically been manual and labor-intensive. Over the past decade, automated systems have been developed that manage and aid in researching adjustment requests and create accounting entries. In addition, depository institutions can now submit adjustment requests electronically. Nonetheless, in the current environment, some Reserve Banks are not able to automate the receipt of these electronic messages and must process them manually, often delaying the research and resolution of the cases. When fully installed, the EWA system will allow adjustment requests received by any Reserve Bank site to be processed by any other Reserve Bank site, thus relieving backlogs.

By the end of 2000, the EWA system had been installed in twenty-six of the forty-three Reserve Bank sites that process adjustment requests. The remaining sites will be converted to the new system by June 2002. Capital outlays for the EWA project are expected to total slightly more than $4 million, and expenses are expected to total approximately $14 million through the end of the project in 2002.

Image Services System Project

The image services system (ISS) project will redesign the current image-processing infrastructure to produce a nationwide, centrally managed system for the storage and retrieval of check images. This project leverages one of the newest technologies to gain widespread use in check processing – digital imaging. As checks are processed, cameras on the sorter capture digital images of each check. These digital images can be stored in an archive at a Reserve Bank or transmitted to a depository institution by CD-ROM or magnetic tape. Depository institutions

Appendix 1 – Description of the Check Modernization Project (con't)

use these images in lieu of the original checks in various ways, including creating image statements, enabling account holders to access images of their checks either on CD-ROM or over the Internet, and archiving the images for future research.

The Reserve Banks have been using different hardware and software to capture and store check images and, as a result, often deliver images in different formats. The ISS project will establish regional archive sites that will allow each Reserve Bank site to continue capturing images locally but will consolidate the storage of images to achieve greater economies of scale. The new infrastructure will enable Reserve Bank staff and depository institutions throughout the nation to retrieve images captured at any Reserve Bank site. It will also allow Reserve Banks to offer a standard format for image files across all sites.

The ISS project began in 2000, with the first installation scheduled for early 2001. All sites are scheduled to convert to the new system by the end of 2002. Capital outlays for the project are expected to total approximately $27 million, and expenses are expected to total approximately $22 million through the end of the project in 2002.[1]

Electronic Access and Delivery Project

The electronic access and delivery (EA&D) project will convert check services from the current FedLine platform to a "FedLine for the Web" platform. The new platform will reduce the Reserve Banks' reliance on an outdated DOS platform, in use since the early 1980s, and provide opportunities for offering new services over the Web. FedLine provides depository institutions with a secure connection to Reserve Bank computer networks so they can use certain transactional and informational services, including wire transfers, automated clearinghouse (ACH) transactions, electronic check presentment files, and access to account balance information. The current FedLine platform limits access to computers equipped with certain encryption devices. The EA&D project will give depository institutions the option of using FedLine for the Web for electronic access to and delivery of check services from almost any location.

The Reserve Banks are currently converting all applications on the current DOS-based FedLine system to either Windows- or Web-based applications, depending on the requirements of each application. The EA&D project is scheduled to have Web-based services available by the second quarter of 2001, at which time the Reserve Banks will begin assisting customers with the transition to the new platform. Capital outlays for the project are expected to total slightly more than $2 million, and expenses are expected to total slightly more than $6 million through 2001.

Project Management

Management of the check modernization initiative is structured to ensure that the schedules of these four interrelated and virtually concurrent projects are coordinated, that interproject issues

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[1]Capital outlays exceed expenses over the life of the ISS project because capitalized expenditures will not be fully depreciated by the end of the project.

Appendix 1 – Description of the Check Modernization Project (con't)

are resolved, and that the financial and operational risks to the check service are managed. Central project teams, made up of staff from multiple Reserve Banks, are responsible for individual projects, and a central management team, made up of the four project leaders and representatives from key groups, including the Reserve Banks' Retail Payments Office, Board staff, Reserve Bank internal audit, and Federal Reserve Automation Services, is responsible for overseeing the four projects and ensuring that the projects' goals are achieved.

In addition, each of the Reserve Banks has a District transition manager, who is responsible for coordinating the four projects in that District. Each District transition manager is supported by up to four coordinators, who are responsible for coordinating one of the four projects with the central project teams. This structure is designed to provide consistent communication on key issues and to mitigate some of the risks in managing such a large initiative.

Anticipated Benefits

The check modernization initiative is intended to position the Reserve Banks to meet the challenges of the changing payment services environment in a number of ways. First, the standardization of the check-processing infrastructure will result in the uniform adoption of new technologies across the Federal Reserve System. Second, maintaining and managing a single processing infrastructure should improve the operational efficiency and cost-effectiveness of the check services over the long run. Third, the standard infrastructure will improve the consistency, quality, and uniformity of the check services that Reserve Banks deliver to their customers and allow the system to be modified more efficiently and new services to be developed and deployed more quickly. Finally, the standardization of the check-processing infrastructure will facilitate Reserve Banks' efforts to support national initiatives to promote electronic check presentment.

The check modernization initiative will also allow Reserve Banks to adjust their processing infrastructure in response to external market conditions. Consolidation within the banking industry and in the operating structures within depository institutions will likely continue to result in significant shifts in check volumes among Reserve Bank processing sites. Further, technological and regulatory changes may result in increased reliance on alternative electronic payments. The standard processing environment is designed to allow Reserve Banks to adapt more rapidly and efficiently to these types of changes in the check-processing environment.

Appendix 2 – Division's Comments

**BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551**

LOUISE L. ROSEMAN
DIRECTOR
DIVISION OF
RESERVE BANK OPERATIONS
AND PAYMENT SYSTEMS

August 30, 2001

Mr. Barry R. Snyder
Inspector General
Board of Governors of the Federal Reserve System
Washington, DC 20551

Dear Barry:

Thank you for the opportunity to respond to your *Report on the Audit of the Board's Oversight Approach for the Federal Reserve's Check Modernization Project*. The report contains two recommendations that are designed to enhance our oversight of this project. We believe that these recommendations would strengthen our oversight efforts and, therefore, plan to implement the recommendations in the near future.

We have already undertaken steps to address the first recommendation to more clearly articulate our oversight strategy to division staff involved in project oversight. Specifically, we have formalized, in a matrix that we plan to share with division staff involved in project oversight, our oversight objectives for each identified project risk. The matrix shows our current assessment of the risk level for each project risk, specifies the oversight strategy and tactics that will be used to achieve the oversight objectives related to each project risk, and identifies the sections within the division responsible for achieving each oversight objective. While I believe that most division staff members involved in oversight are familiar with our risk-based project oversight approach, this formalized matrix will help us achieve a common understanding about our oversight efforts and help us better manage and focus our resources as the project moves forward.

The report also recommends that we more fully integrate into our oversight of the project the results of audit work by the general auditors and of the division's reviews of the operations of the general auditors. To address this issue, we plan to include, in our periodic reports to the Committee on Federal Reserve Bank Affairs (BAC), a summary of significant general auditor findings and project management's disposition of those findings as well as an assessment of the resource commitment and the quality of the work of the Reserve Banks' audit functions. Further, BAC members now receive the quarterly project audit reports. We also plan to share proactively more information with the general auditors regarding the scope and results of project-related audit review work at particular Reserve Banks. In addition, we have already taken steps to enhance cross-section communications within the division by involving audit review staff in our regular oversight team meetings.

Appendix 2 – Division's Comments (Con't)

Again, I would like to thank you and your staff for your efforts in helping us enhance our oversight approach to this extremely important System project.

Sincerely,

Louise

Appendix 3 – Principal Contributors to This Report

Paul Zacharias, Senior Auditor and Auditor-in-Charge

Kyle Brown, Auditor

Lori Jackson, Auditor

Robert Olson, EDP Auditor

Nancy Perkins, Program Manager